

ABSTRACT OF THE INVENTION

Apparatus and methods for determining the timing of the data bit transitions. "N" assumptions of data bit
5 transitions are used for determining N integrations of an incoming spread signal for data bit time periods where N is the data bit time period divided by the code time period. In a first variation, the N assumptions use N start times separated by code time periods. In a second variation, the
10 N assumptions use N sign inversion times separated by code time periods. In either variation the unsigned values of the N integrations, respectively, may be combined for several data bit time periods. The assumed transition timing that results in the strongest of the N integrations
15 is indicative of the timing of the data bit transitions.